

## II. CLAIM AMENDMENTS

1. (Currently Amended) A miniature connector having on-board electronics for a thermocouple, characterized in that it comprises a module containing:

first and second connection means for connecting a thermocouple to a printed circuit, said printed circuit including connecting means for connecting elements of the on-board electronics;

~~two connection means for connecting a thermocouple to a printed circuit connecting the elements of the on-board electronics;~~

three connection posts ~~from the~~ for connecting said printed circuits to a connector supply and signal transfer cable, said signal being formed by the on-board electronics;

means for measuring the ambient temperature in the connector disposed between the two connection means of the thermocouple;

forming means for amplifying thea signal supplied by the thermocouple and scaling of thea signal supplied by the ambient temperature measurement means, thesethe forming means also performing the summation of these two signalsthe amplified signal and the scaled signal as well as the linearization of the signal resulting from this summation;

said forming means being comprised of:

a linearization circuit, whose output is connected to one of said three connection posts;

a scaling circuit of the signal supplied by an output of the ambient temperature measurement means;

a summation circuit comprising two inputs and one output;

a differential amplifier circuit, each of whose inputs is connected to the first and second connection means and whose output is connected via a printed circuit track to a first input of the summation circuit, said summation circuit receiving over its other input the output of said scaling circuit, the output of the summation circuit being connected to the input of said linearization circuit.

2. (Original) The connector according to Claim 1, characterized in that the forming means are comprised of a very low offset and very low drift differential amplifier, each of whose inputs is connected to the first and second connection means and whose output is connected via the printed circuit track to an input of a summation circuit receiving over its other input the output of a scaling circuit of the signal supplied by the output of the ambient temperature sensor, the output of the summer circuit being connected to the input of a linearization circuit, whose output is connected to one of the connection posts of the cable connection.

3. (Currently Amended) The connector according to Claim 1, characterized in that a second cable connection post is connected

to a voltage regulator that supplies the on-board electronics  
~~circuits~~ in the connector via the printed circuit track ~~tracks~~.

4. (Original) The connector according to Claim 1, characterized in that the module has a length of less than 30 mm, a breadth of less than 20 mm and a thickness of less than 10 mm.

5. (Original) The connector according to Claim 1, characterized in that the K-type thermocouple is comprised of a chromel alloy wire connected to an alumel alloy wire for comprising a hot junction; the connection of these two wires, respectively, to the first and second connection means with the copper of the printed circuit comprises a cold junction.

6. (New) A miniature connector having on-board electronics for a thermocouple, characterized in that the connector comprises a module containing:

first and second connection means for connecting the thermocouple to a printed circuit, the printed circuit including connecting means for connecting elements of the on-board electronics;

three connection posts for connecting the printed circuit to a connector supply and signal transfer cable and coupling a signal being formed by the on-board electronics;

means for measuring the ambient temperature in the connector disposed between the first and second connection means of the thermocouple;

forming means for amplifying a signal supplied by the thermocouple and scaling of a signal supplied by the ambient temperature measurement means, the forming means also performing a summation of the amplified signal and the scaled signal as well as a linearization of a signal resulting from the summation;

the forming means being comprised of:

a linearization circuit whose output is connected to one of the three connection posts;

a scaling circuit for scaling a signal supplied by an output of the ambient temperature measurement means;

a summation circuit comprising two inputs and one output;

a differential amplifier circuit, having at least one input that is connected to the first and second connection means and an output that is connected via a printed circuit track to a first input of the summation circuit, the summation circuit receiving over one of the at least one input the output of the scaling circuit, the output of the summation circuit being connected to an input of the linearization circuit.

7. (New) The connector according to claim 6, wherein one of the three connection posts is connected to a voltage regulator that supplies each circuit of the forming means contained in the connector via respective tracks.

8. (New) The connector according to claim 6, wherein the module has a length of less than 30 mm, a breadth of less than 20 mm and a thickness of less than 10 mm.

9. (New) The connector according to claim 6, wherein the thermocouple is a K-type thermocouple comprised of a chromel alloy wire connected to an alumel alloy wire for comprising a hot junction and a connection of these two wires, respectively, to the first and second connection means with a copper of the printed circuit comprises a cold junction.